COMMONWEALTH of VIRGINIA

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TO: Reviewing Agencies (see list at end)

FROM: Ellie Irons, DEQ-OEIR

DATE: April 7, 2011

Comments due to DEQ-OEIR: April 19, 2011.

SUBJECT: Nuclear Regulatory Commission (Dominion Virginia Power, applicant): Federal Consistency Certification for Combined Construction and Operating Permit for Proposed Unit 3 at North Anna Power Station (DEQ-10-167F)

As part of our review of the above-referenced federal consistency certification (FCC), we are enclosing copies of the comments we received during the public comment period. We hope to use these public comments and your responses to them, in addition to the agency comments we have already received, in developing our response to the above-listed federal consistency certification, which asserts the consistency of the proposed action with the Enforceable Policies of the Virginia Coastal Zone Management Program. We are also interested in any recommendations you have, based on agency responsibilities and expertise, concerning the application of the Program's Advisory Policies to the proposed project. To guide your analysis and response, this memo endeavors to direct issues and questions to appropriate agencies administering one or more of the Enforceable Policies. Please address the issues raised by commenters as they relate to the enforceable and/or advisory policies under your jurisdiction. The summaries provided below are intended to guide your analyses but not limit them. The detailed public comments are attached as well.

Part I. Enforceable Policies of the Virginia Coastal Zone Management Program

1. Agency: DEQ, through its Northern Virginia Regional Office (NVRO), Office of Wetlands and Water Protection (OWWP), and the Office of Surface Water and Groundwater Planning.

A. Enforceable Policy: ***Point-source Pollution Control.*** The point source pollution control program is administered by DEQ pursuant to *Virginia Code* § 62.1-44.15 and 62.44.15.5. Point source pollution control is accomplished through the implementation of: (i) the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to §402 of the Clean Water Act and administered in Virginia as the VPDES permit program, and (ii) the Virginia Water Protection Permit and Water Quality Certification under §401 of the Clean Water Act.

North Anna Power Station (NAPS) has a VPDES permit (VA 0052541) covering the existing site operations. Dominion will request a VPDES permit modification to include Unit 3 discharges. Dominion has also applied for a Virginia Water Protection Permit/401 Water Quality Certification.

Public Comments: DEQ received comments from the following organizations: Friends of Lake Anna (FOLA, 2,650 residents represented), the Virginia chapter of the Sierra Club, the Blue Ridge Environmental Defense League (BREDL), and the Sandy Point Property Owners' Association (11 signers) and over 60 additional comments. A number of these commenters enclosed or endorsed the comments of FOLA.

Consistency Finding: According to commenters, the construction and operation of Unit 3 at North Anna, as currently proposed, is inconsistent with the point source pollution control enforceable policy of Virginia Coastal Zone Management Program (VCP). FOLA and some commenters support the construction of a 3rd reactor, but requested that a federal consistency certification not be issued until all of the issues associated with the VPDES and water withdrawal permit (VWPP) for operation of Unit 3 are satisfactorily resolved. The issues raised are summarized below. Other commenters (26) indicated their objections to the construction of a third reactor.

(a) Virginia Pollutant Discharge Elimination System (VPDES)

Issue #1. ***Current Lawsuit:*** Several commenters stated that DEQ's approval of the FCC should await the final resolution of the lawsuit concerning application of the Clean Water Act to the cooling lagoons (the "hot side" of Lake Anna). The lawsuit alleges that the DEQ permit issued to Dominion in 2007 for Units 1 and 2 violates the Clean Water Act by allowing discharged water into the "hot side" which results in water temperatures

exceeding a Clean Water Act standard of 89.6 degrees Fahrenheit (F) in the months of May through October

Issue #2 ***Clean Water Act section 316(a) Variance:*** Two correspondents questioned the variance given to Dominion for hot water discharges from Units 1 and 2 pursuant to section 316(a) of the federal Clean Water Act. Commenters allege that the section 316(a) variance was misapplied because the "hot side" is not a "waste heat treatment facility" but part of the "waters of the United States" to which Clean Water Act protection is afforded.

Issue #3 ***High water temperatures in the cooling lagoons:*** According to some commenters (e.g., FOLA and BREDL), Dominion's existing VPDES permit violates the CWA for the following reasons. First, under the Clean Water Act (CWA), Virginia must protect water quality of the lake, but the state failed to limit hot water discharges flowing from the North Anna nuclear reactors directly into Lake Anna.

Second, heat is a pollutant and the maximum water temperature in cooling lakes is set by federal law as 89.6 degrees Fahrenheit (F.). Lakeside residents report that water temperatures reached as high as 106 degrees F. The Lake Anna Civic Association (LACA) Water Quality Team has recorded 104.6 degrees F. at the end of the discharge canal. LACA has also reported that waters in the North Anna River (3 miles before it enters Lake Anna) are 13 degrees cooler than the central part of the lake above the Route 208 Bridge. BREDL states that it has documented the serious harm to Lake Anna caused by excessive heat levels. The current limit of 89.6 F. for non-tidal waters established by the federal CWA has been violated many times by Dominion throughout the entire lake. FOLA asserts that according to the CWA, the effluent discharge into Lake Anna shall not be increased more than 6.3 degrees F. above the natural water temperature. LACA studies have shown the current natural North Anna River temperatures to be approximately 72 degrees F. Therefore, for compliance with the CWA requirements, Lake Anna water temperatures should not exceed 78.3 degrees F. under current conditions.

Third, the State Water Control Board applied the wrong law and analysis in concluding that part of Lake Anna was entitled to an exemption for waste treatment facilities.

Issue #4 **Point of compliance** for all Federal and State water permits should be changed from Dike 3 to the end of the discharge canal to provide protection afforded by the Clean Water Act for all cooling lagoon users. The U.S. Environmental Protection Agency (EPA) should reevaluate the NPDES authority delegated to the Commonwealth of Virginia and ensure that the VPDES program is not less stringent than the national program. Federally delegated programs such as VPDES can be more stringent than the national program, but cannot be less. The Virginia State Water Control Board should

ensure that monitoring of the VPDES program must begin at the end of the North Anna power plant discharge canal to protect the public.

Issue #5 ***Cumulative Impacts:*** According to FOLA, Dominion's Federal Consistency Certification focuses only on the proposed unit 3 and does not consider the cumulative effects of Lake Anna's water temperatures with all three reactors running. Although Dominion indicates that the unit 3 cooling method will only add minimal heat to the water that is discharged, FOLA states that with unit 3 using up to 32 or 37 million additional gallons per day, there will be less water in the lake to dissipate the heat from reactors 1 & 2. This, in turn, will cause the overall lake temperatures to rise to unhealthy temperatures for humans, fish, wildlife and aquatic species.

(b) Virginia Water Protection Permit for water withdrawal

Issue #1 ***Water Quantity:*** Most of the commenters indicated that the Lake does not have, or receive, enough water to meet the demands of a third reactor, in combination with the two existing reactors. FOLA referenced DEQ's Division of Water Resources 2005 response to the Draft EIS for North Anna's Early Site Permit which stated that the 342-square mile watershed sustaining Lake Anna seemed inadequate to support another water-cooled reactor. In its 2005 review, DEQ's Division of Water Resources looked at other nuclear reactors along the East Coast to compare the water resources available to them with the water resources available at North Anna. The conclusions drawn from that research are:

- Most of the intake locations are tidal and have an essentially unlimited water supply;
- Of the remaining locations, the North Anna location has the least abundant water supply, based on the average flow of a small watershed (342 square miles) and a medium-sized reservoir; and
- There is a limited number of nuclear power stations located on non-tidal rivers. In these cases, the power plants are on large rivers such as the Connecticut and the Susquehanna.

In fact, the only location remotely similar to North Anna's situation is the Oconee plants on Lake Keowee in South Carolina. However, immediately below Lake Keowee is Hartwell Lake, so the section of non-tidal stream affected by consumptive loss is very short.

Two comments, one by the Sandy Point Property Owners' Association, questioned whether things have changed since the DEQ 2005 review of the Draft EIS for the Early Site Permit. The Pacific Northwest Lab study in 2005 of Lake Anna and the effects of a third reactor did not address larger issues or the effects of the project on residents and

recreational uses, but did show, with numbers relating to lake levels and downstream releases, that the effects of Unit 3 on the Lake, particularly in times of drought, would be "devastating." The third reactor, while not raising the consumptive use significantly because of the return flow, would elevate water temperatures and result in forced evaporation and reduced lake elevations (and downstream flows) in drought conditions.

Issue #2. ***Maintenance of water levels and flows in the Lake; water withdrawals; downstream flows:*** Closely related to Lake water temperatures (Issue #1 above) are questions relating to cooling water demand, hot water discharge, and the management of flows between the "hot side" and "cool side" as well as water level management in the Lake. Nine comments, as well as two from associations, expressed concern about drought cycles and how, in recent years, droughts have increased in central Virginia; seven, including two from associations, expressed concerns about water withdrawals for proposed Unit 3, in light of the fact that Lake Anna occupies a small (342 square miles) watershed with limited capabilities for obtaining additional water – and, according to the association and four other commenters, a high rate of growth in residential and tourist demands for water. One association recommended permit conditions mandating the use of up-to-date technology to obtain real-time monitoring of flows, rather than measuring lake levels and flows and submitting a report the following January as, according to the comment, the applicant proposes. The same association urges use of computer model formulas for the flows of water into and out of Lake Anna that are open and that provide for all sources of inflow, evaporation, current withdrawals, and total water available every month, as well as consideration of frequent (3-year intervals as in recent years) droughts.

Issue #3. ***Water quality impacts of the new reactor:*** Two commenters mentioned that start-up and construction activities for Unit 3 would involve the disturbance of suspected PCBs on the lake bed. Other commenters mentioned that copper and tributyltin (TBT), as well as biocides and algicides, would be added to cooling water discharges to protect reactor facilities and wastewater discharge equipment from build-up of organic wastes and impediments to the flow of cooling water.

Issue #4. ***Permit duration:*** The VWPP permit term for Unit 3 is to be 15 years, according to one association and two individual comments, while the current VPDES permit for Units 1 and 2, issued in 2007, has a 5-year term. Commenters urge a shorter permit term for the VWPP permit and annual monitoring of water flows in light of rapid population growth in nearby urban/suburban areas (Richmond, Fredericksburg, Charlottesville), as well as rapid changes affecting local water resources, such as growth in local population and related public needs, and increasingly frequent droughts, in Central Virginia. Several commenters urged a complete review and approval process before permit renewals.

Issue #5. ***Downstream impacts:*** Comments from 16 people included concerns about downstream impacts in the North Anna River attributable to water withdrawals, drought conditions, and lake level management. At least six commenters indicated that the question of downstream impacts had not been studied; two others expressed concern about fish habitat and fish life cycles. Several commenters expressed concern for the Pamunkey and York Rivers as well as the North Anna River.

Issue #6. ***Piecemeal permitting:*** Thirteen commenters, including FOLA, expressed concern with the permitting approach being taken by Dominion. Specifically, several commenters state that Dominion is being allowed to apply for permits (such as VWPPs) in a piecemeal approach, with little coordination and a failure to address the "big picture." According to FOLA, water withdrawals for existing Units 1 and 2 are not regulated, and the amounts are unknown to the public. The withdrawal sought for the operation of Unit 3 has risen in the past year from approximately 24 million gallons per day (MGD) to 32 MGD, while another permit application for construction asks for 750,000 gallons a day for the 15-year permit term. Moreover, Dominion has changed its proposed reactor from a Boiling Water Reactor (under consideration in the Early Site Permit application) to a Pressurized Water Reactor (under consideration in the application for a Combined Construction and Operating License), and several commenters believe this warrants a fresh environmental review. Six commenters and an association criticized Dominion for not obtaining necessary financial commitments or deciding that it intends to proceed with Unit 3, even as it causes public entities to incur processing expenses related to that unit's construction and operation.

Issue #7. ***Nuclear power plant safety.*** Thirty-five commenters discussed the earthquake and tsunami in Japan and expressed concern with the continuing release of radioactive materials from the Fukushima nuclear power plant. One commenter, writing before the news broke, indicated that nuclear power is safe and needed as an alternative to fossil fuels. The others recommended that permitting processes (such as VWP and VPDES) be put on hold until the Nuclear Regulatory Commission can evaluate what has happened in Japan and its implications for this country; a number of these commenters are among those who oppose unit 3 outright, as mentioned above (see "Consistency Finding" above).

Issue #8 ***Lake Anna design***. Lake Anna was designed by Dominion and approved by VDEQ/NRC/FERC to have two different water levels: (1) main reservoir (250 feet MSL) and (2) three Cooling Lagoons (251.5 feet (251 feet, 6 inches) MSL) to provide for water flow between the cooling lagoons and main reservoir Recent water levels during the 2010 Winter/Spring seasons indicated the cooling lagoon design water level was down 12 inches (from the 251.5 MSL to 250.5), while the main reservoir design level was up 3 inches (to 250.25), while Dominion permitted over 400 million gallons per day to flow over the dam. After many meetings between FOLA and Dominion, it seemed to FOLA

that Dominion, using 1960s technology, cannot adequately maintain/regulate the design water levels on both sides of the lake throughout the year. *If one side is up/down 3 inches, then both sides should be up/down 3 inches, etc.* (Emphasis is FOLA's.)

Issue #9 ***Cumulative effects of all Lake Anna water withdrawals***. Dominion currently has water permits for Reactors 1 and 2, (but the public is unaware of how much Lake Anna water is being consumed, plus the withdrawal amount is not regulated) that have to be renewed every 5 years. They also have a water permit for operating their current sewage treatment plant that discharges its effluent into the cooling lagoons of Lake Anna. Last year, Dominion was requesting up to 24 million gallons a day or almost 9 trillion gallons per year just for the 3rd reactor operation. Dominion has now increased their estimated water usage by 33% to 32 million gallons a day which is over 11.7 trillion gallons per year. Another permit for construction activities is requesting 750,000 gallons of water per day for a maximum of 149 million gallons per year for 15 years. Dominion has also indicated plans to request other water permits expanding or creating a new sewage treatment plant at Lake Anna for its 5,000 to 7,000 construction workers and put its effluent back into the lake. Louisa County has applied for a water withdrawal permit from Lake Anna for human consumption since the Lake Anna area is in one of its top three growth areas. Hanover County (North Anna River downstream) also has existing and future water needs.

Issue #10 ***Computer Model projections:*** According to FOLA, the Early Site Permit and Construction and Operating License water withdrawal and related permits, including the Instream Flow Incremental Methodology (IFIM) study, are based on computer model projections. Computer models were used to forecast that Lake Anna would support both recreation and water cooling for four nuclear reactors. However, previous DEQ watershed studies indicated that it might not even support a total of 3 reactors. Many respected hydrologists have questioned whether Lake Anna can actually support this proposed 3rd reactor with sufficient water withdrawals and not damage recreation or create higher water temperatures, which in turn may increase the bacteria count in the lake and cause many other problems identified elsewhere in the FOLA comments. FOLA recommends that the exact formulas be made available to the public for review prior to further considering a federal consistency certification. The model formulas should provide for all sources of water in-flow, evaporation, current permitted water withdrawals, and total water available in relation to design water levels on both the main reservoir and cooling lagoons for each month throughout the average year using only the last 10 years of data. The model should also incorporate the previous DEQ analysis, increased 3-year drought intervals during the past decade, Louisa County water needs and data contained in State Water Control Board Bulletin #58 (which did not appear to be considered with the IFIM study or compensated by the 3-inch rise in water level) and the capability to forecast impacts if additional water is withdrawn from

the lake. FOLA states further that the earlier DEQ analysis clearly indicates that the 3rd unit would increase the drought cycle and cause decreased water flows during March, April, May, June, July, August, and October (7 months) of each year.

Issue 11 ***Dry Cooling only for Unit 3.*** **On March 15, 2011 (after the March 11 earthquake in Japan) FOLA submitted additional comments on the FCC.** According to FOLA, the potential for dual disasters striking the existing and proposed reactors at North Anna (e.g. an earthquake which destroys the dam and also causes loss of power generation needed to provide cooling water to safely shut down the reactors) dictates that the proposed 3rd nuclear reactor should be cooled exclusively using dry air cooling (similar to Dominion's proposal for its 4th reactor during the Early Site Permit processing). Using dry air cooling would ensure that at a minimum one nuclear reactor (Unit 3) would still be operational if the lake were drained because of a dam breach and there was insufficient water in the lake to provide for cooling reactors 1 and 2. Note that the 1970 plans for the lake and power plants indicated that it would take approximately 3 years to fill Lake Anna, since it is not adjacent to a free flowing river or ocean. This is also the approximate time period that all three reactors would be out-of service if Unit 3 reactor cooling is not changed to dry cooling and a dual disaster struck the North Anna site.

B. Enforceable Policy: ***Wetlands Management.*** The wetlands program purpose is to preserve tidal wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation. The Virginia Water Protection Permit program includes protection of wetlands, both tidal and non-tidal. It is authorized by *Virginia Code* section 62.1-44.15.5 and the Water Quality Certification requirements of the federal Clean Water Act of 1972, section 401.

Issue #1. ***Downstream Impacts:*** Comments from 16 people included concerns about downstream impacts in the North Anna River attributable to water withdrawals, drought conditions, and lake level management. Four commenters indicated that the question of downstream impacts had not been studied; two other commenters expressed concern about fish habitat and fish life cycles. Several commenters expressed concern for impacts on the Pamunkey and York Rivers as well as the North Anna River.

Issue #2**.** ***Management of lake levels and flows with operation of Units 1 and 2, and impacts of Unit 3 operation.*** Two associations, along with 24 commenters, expressed concerns about water level management and the sufficiency of water in the cooling lagoons and the main reservoir. FOLA stated that Dominion, in operating Units 1 and 2, is not maintaining the approved water levels in the cooling lagoons (251.5 feet above mean sea level (MSL) and the main reservoir (250 feet MSL); that spring 2010 water levels were 250.5 feet (down 12 inches) and 250.25 feet (up 3 inches), respectively, in the cooling lagoons and the main reservoir; and that Dominion is relying

on old technology for water level control. FOLA seeks a commitment, on the part of DEQ, to require "real-time" monitoring of water withdrawals via water meters connected to intake lines, in order that DEQ may act immediately if permit requirements are violated, and so that the public may stay informed of water withdrawals. Eight commenters expressed concern regarding increased frequency of droughts in Central Virginia.

2. Agency: Department of Game and Inland Fisheries (DGIF)

A. Enforceable Policy: ***State Tributyltin (TBT) Regulatory Program.*** The TBT program monitors boat painting activities to ensure compliance with TBT regulations promulgated pursuant to legislation to control the threat that TBT poses to important marine animal species. The Marine Resources Commission, the Department of Game and Inland Fisheries, and the Department of Agriculture and Consumer Services share enforcement responsibilities under *Virginia* Code sections 3.1-249.59 through 3.1-249.62.

Public Comment: FOLA and other commenters indicated their concerns that Dominion will add concentrations of copper and tributyltin to the wastewater discharge into the cooling lagoons as a result of Unit 3 cooling, and that these amounts would not be measurable using DEQ analytical methods. In addition, Dominion intends to add concentrations of chemicals and/or biocides that are commonly used for water treatment, i.e., chlorination and de-chlorination, anti-scaling, and corrosion protection. FOLA asks for limits on such discharges in heated water to protect human health, wildlife, and aquatic life.

B. Enforceable Policy: ***Fisheries Management.*** This program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. The program is administered by DGIF under *Virginia Code* sections 29.1-100 through 29.1-570, and also by VMRC (see Agency #3, next).

Public Comment: According to FOLA, the federal consistency certification should not be approved until the Instream Flow Incremental Methodology (IFIM) study is corrected to ensure that the study reflects the following:

- the cooling lagoon design level of 251.5 feet MSL has not been maintained historically;
- the 3-year interval frequency of droughts during the past decade;
- anticipated Louisa County water needs and how they would be affected by the proposed 3-inch rise in lake level.

Issue #1. Downstream impacts. In discussing downstream impacts, some commenters expressed concerns about what changes in downstream flows would mean to fish life cycles and fish habitat. Specifically, reduced flows attributable to the proposed 3" raising of the lake level, in combination with potentially higher water temperature from the third water-cooled reactor, might have adverse impacts on spawning, nursery areas, and feeding of striped bass and other fish populations in the North Anna River.

Issue #2. Instream Flow Incremental Methodology Study. According to FOLA, the IFIM study focused on the main reservoir Lake design level of 250.0 feet MSL and Dominion's proposed increase of 3 inches to 250.25 MSL to provide the make-up water for the 3rd reactor. The IFIM study is negated by Dominion's proven inability to regulate the cooling lagoon design water levels. The IFIM study does not take into account that the design level of the cooling lagoons is not maintained at a consistent relation to the main reservoir level and could be down 12 inches or more at the start of a drought. Nor does it account for 3-year drought intervals during the past decade or for Louisa County water withdrawal needs.

If the cooling lagoons are down one foot (1,107,891,972 gallons) at the beginning of a drought and this water was taken from the main reservoir, then it would drop the water level in the main reservoir (1,107,891,972 / 260,680,464) = 4.25 inches. This would then negate the 3-inch rise that was being proposed to offset the impact of the up to 24 million gallons a day (now 32 or 37 million gallons a day) to be used by the 3rd reactor. In addition, Louisa County has indicated they have applied for a water withdrawal permit from Lake Anna for future local population growth needs, which is also not included in the IFIM study.

Formulas used by FOLA in critique of IFIM Study:

(a.) Cooling Lagoon: (3,400 acres x 43,560 sq ft per acre = 148,104,000 sq ft surface area / 12 inch @ foot = 12,242,000 x 7.4805 gals in one inch water depth = 92,324,331 x 12 inch per foot = 1,107,891,972 gals in one foot water depth-cooling lagoons.

(b.) Main Reservoir: (9,600 acres x 43,560 sq ft per acre = 418,176,000 sq ft surface area / 12 inch @ foot = 34,848,000 x 7.4805 in one inch water depth = 260,680,464 gals in one inch of water depth- main reservoir.

(b) 3rd Reactor - 14 Million Gallons @ Day Annual Average.- 14,000,000 x 365 days = 5,110,000,000 gallons per year

(d.) 3rd Reactor - Up to 24 Million Gallons @ Day = 24,000,000 x 365 days == 8,760,000,000 gallons per year

3. Agency: Virginia Marine Resources Commission (VMRC)

A. Enforceable Policy: ***Fisheries Management.*** This program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. The program is administered by VMRC under V*irginia Code* sections 28.2-200 through 28.2-713, and also by DGIF (see Agency #2, above).

Public Comments: Several commenters stated their concern that downstream impacts on the North Anna, Pamunkey, and York Rivers due to increased water use to cool a third reactor have not been studied. One of these commenters specifies that current studies of potential habitat destruction, impact on recreational activities (and the economy derived from them), and restrictions on agricultural use and resulting crop failures around the Lake have been insufficient.

B. Enforceable Policy: ***State Tributyltin (TBT) Regulatory Program.*** The TBT program monitors boat painting activities to ensure compliance with TBT regulations promulgated pursuant to legislation to control the threat that TBT poses to important marine animal species. VMRC, DGIF, and VDACS share enforcement responsibilities under *Virginia* Code sections 3.1-249.59 through 3.1-249.62.

Public Comment: FOLA indicated its concern that Dominion will add concentrations of copper and tributyltin to the wastewater discharge into the cooling lagoons as a result of Unit 3 cooling, and that these amounts would not be measurable using DEQ analytical methods. In addition, Dominion intends to add concentrations of chemicals and/or biocides that are commonly used for water treatment, i.e., chlorination and de-chlorination, anti-scaling, and corrosion protection. FOLA asks for limits on such discharges in heated water to protect human health, wildlife, and aquatic life.

Part II. Advisory Policies of the Virginia Coastal Zone Management Program

1. Agency: DCR, through its Division of Planning and Recreation Resources and its Division of State Parks

Advisory Policy: *Advisory Policies for Geographic Areas of Particular Concern:*

(a) Coastal Natural Resource Areas. These areas are vital importance to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline…. These areas … include the following resources: (i) wetlands; (ii) aquatic spawning, nursery, and feeding grounds; … (v) significant wildlife habitat areas; (vi) public recreation areas.

Public Comments: At least 12 commenters stated concerns that the downstream impacts upon the North Anna, York, and Pamunkey Rivers resulting from additional water demand in Lake Anna to cool a third reactor have not been studied. None of these commenters specified the particular impacts, but these three rivers include the resources mentioned in the Advisory Policy in varying degrees and places.

In addition, one Lake resident gave the opinion that current studies of potential destruction of habitats, impact on recreational activities (and the economy derived from them), and restrictions on agricultural use and resulting crop failures around the lake have been insufficient.

(b) Waterfront development areas. These areas are vital to the Commonwealth because of the limited number of areas suitable for waterfront activities. The areas of concern are as follows: … (iii) community waterfronts.

Public Comments: According to FOLA, recreation on both the main reservoir and the cooling lagoons of Lake Anna depends on water quality and water level. FOLA listed 27 activities that are enjoyed in or alongside the lake, beginning with boating, sailing, canoeing, water skiing, kayaking, and swimming. A number of property owners cannot launch, store, or tie up their boats a piers, docks, and boat houses due to the management of the lake levels. At least one other commenter made reference to low lake levels presenting docking difficulties and water hazards.

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